

Desert Tortoise Health Assessment

Observing and Recording Clinical Signs on Data Sheet

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Goal Oriented Approach

- Maximize individual survival
- Minimize spread of disease
- Bank for the future

(data, photos, biological
samples)

Systematic Approach

- Far to near
- Head to tail
- Least to most

Attitude and Activity

- = Animal's disposition in the context of it's environment
- Normal
- Lethargic/weak

Normal attitude and activity



Normal



Normal

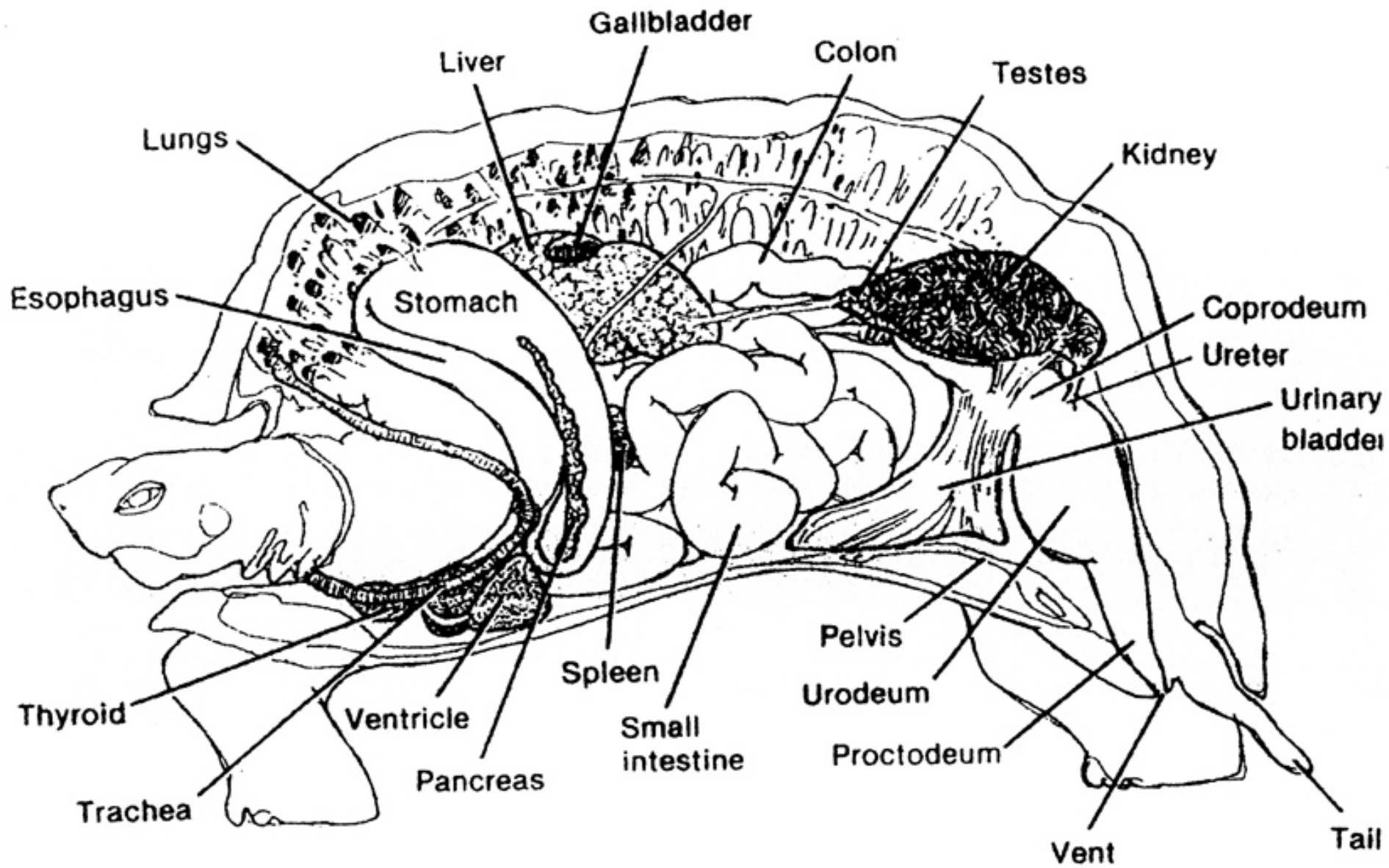


Lethargic and weak



Respiration

- Lack a diaphragm
- Air is moved in/out of the lungs through movement of the forelimbs



Respiration

- Normal breath sounds
 - None
 - Whistling, hissing
- Abnormal breath sounds/breathing
 - Wheezing, rattle

Increased Respiratory Effort

- Head/neck extended
- Open mouth
- Exaggerated forelimb movement or “pumping”

Increased respiratory effort



Beak

- = An external anatomical structure with a keratinized covering which serves as the mouth in some animals
- Normal
- Abnormal

Normal beak



Abnormal beak



Abnormal beak



Evidence of foraging on beak



Naris (s), Nares (pl)

- = External opening of the nasal cavities

Naris (s), Nares (pl)

- Normal
- Asymmetrical = left and right openings are different in size or shape
- Eroded = loss or wearing away of scales
- Occluded = Narrowing or reduced opening of the naris due to debris, exudates or scarring

Normal nares



Asymmetrical nares



Asymmetrical nares



Eroded nares



Eroded nares



Eroded nares



Eroded nares



Occluded nares



Occluded nares



Occluded nares



Occluded Nares



Occluded Nares



Nasal Discharge

- None
- Serous = clear, watery
- Mucous = cloudy, thick

Nasal Discharge Severity

- 1) Mild = moisture at/around nares, bubbles from nose
- 2) Moderate = discharge visible beyond nares
- 3) Severe = discharge from nares running down beak

Serous Discharge

Mild Serous Nasal Discharge



Moderate Serous Nasal Discharge



Severe Serous Nasal Discharge



Mucous Discharge

Mild Moucoid Nasal Discharge



Moderate Muroid Nasal Discharge



Severe mucoid nasal discharge



The Real World

(things are rarely simple)

Occluded, Eroded Nares With Moderate Mucoïd Nasal Discharge



Eroded Nares, Severe Mucoïd Nasal Discharge



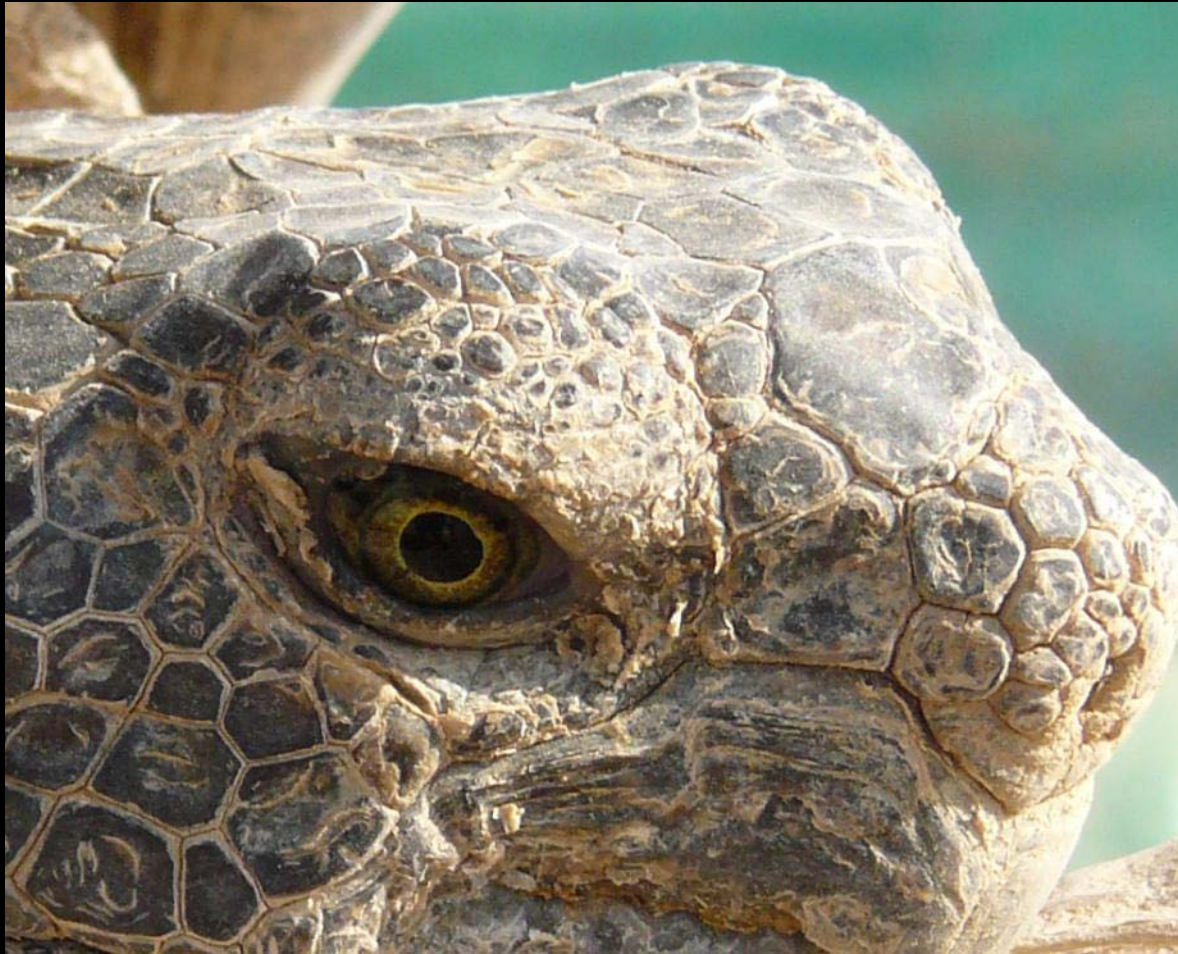
Eyes

- Normal
- Sunken
- Corneal opacity
 - Cloudy, hazy, or loss of transparency of cornea
 - Focal or diffuse
- Partially or fully closed

Normal Eyes



Sunken Eyes



Corneal Opacity

glossary term

cornea

The outer, transparent, dome-like structure that covers the iris, pupil, and anterior chamber; part of eye's focusing system.

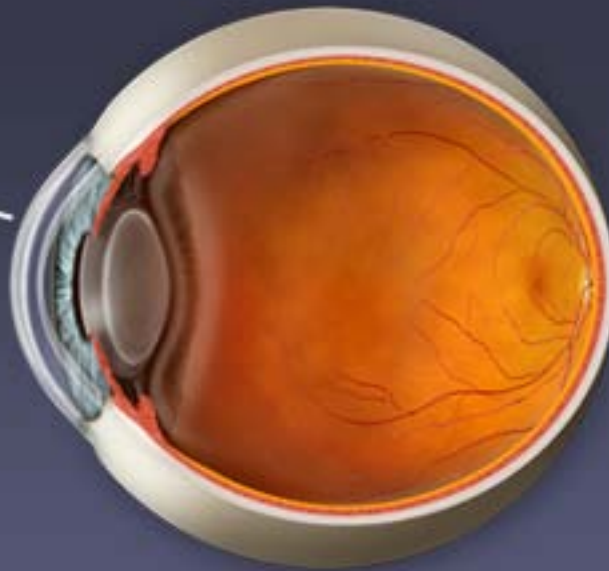
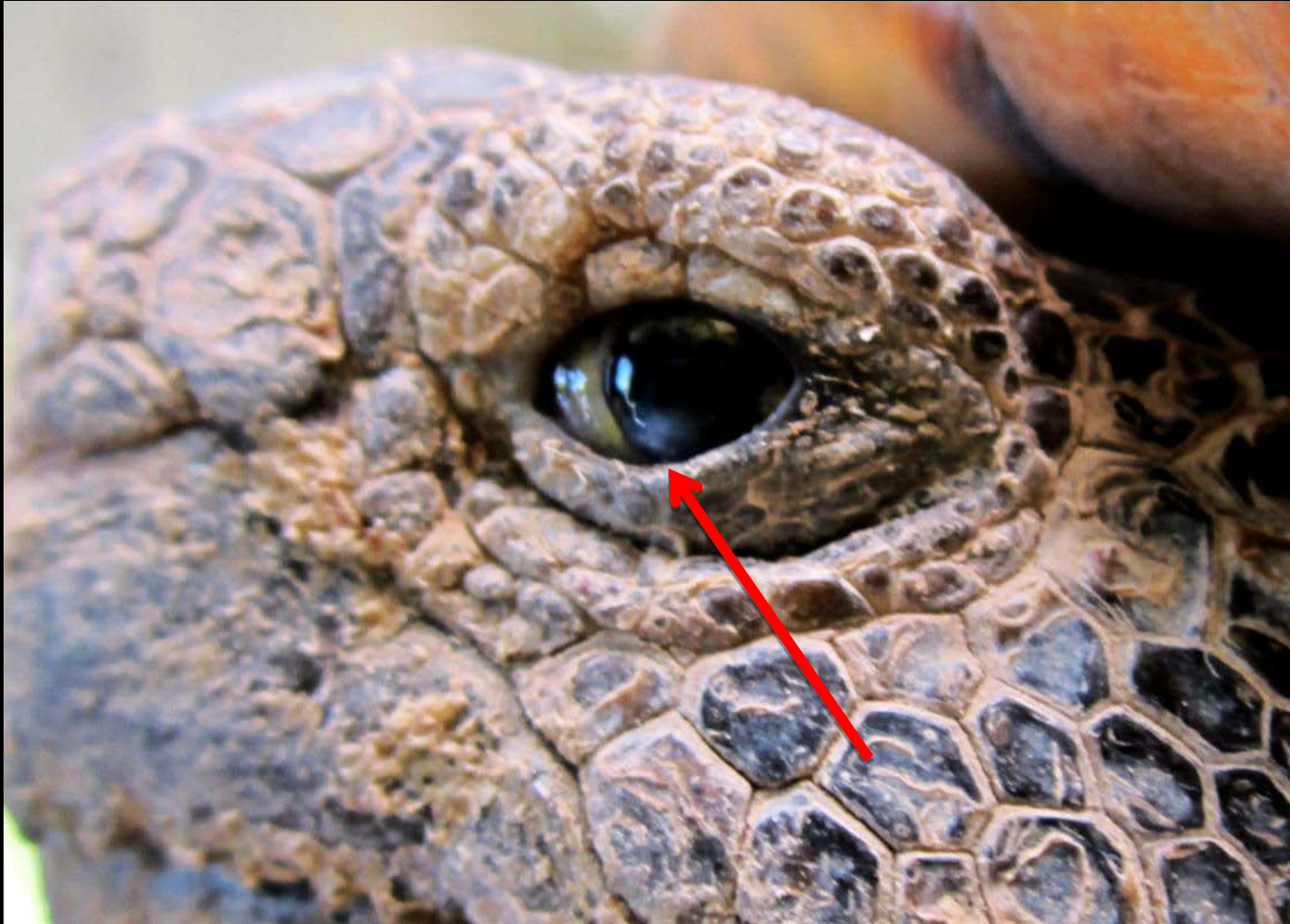


Illustration courtesy of
JirehDesign.com

Corneal Opacity



Partially Closed



Fully Closed Eyes



Ocular Discharge

- Serous discharge
- Mucous discharge

Serous Discharge

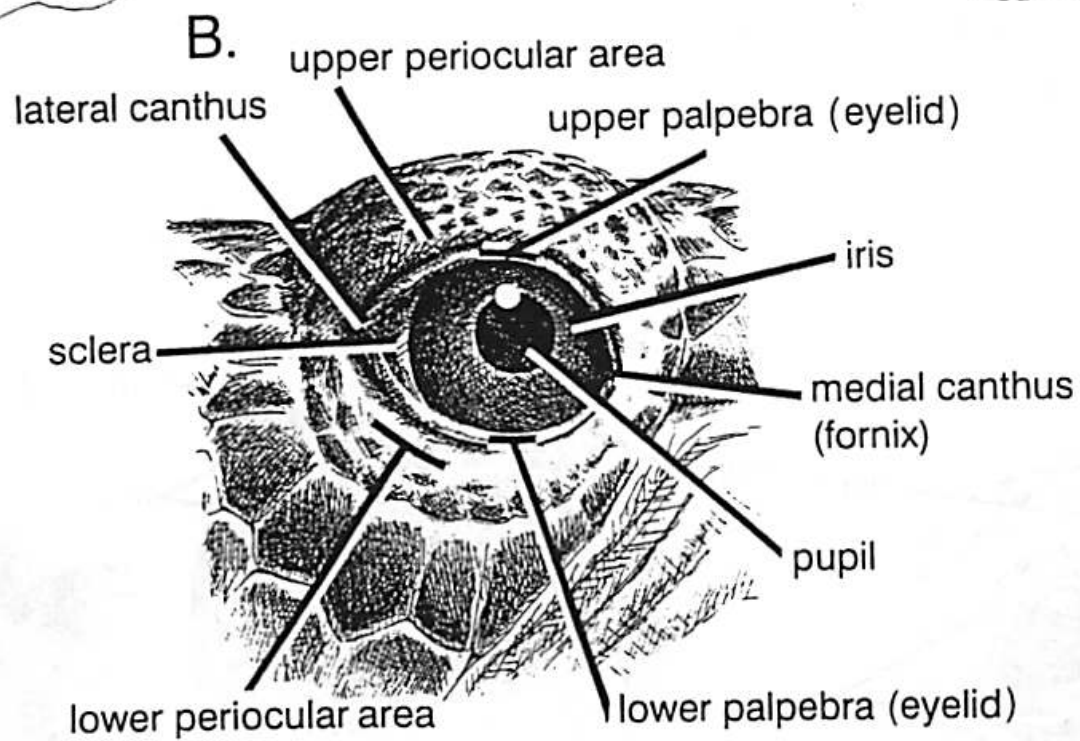
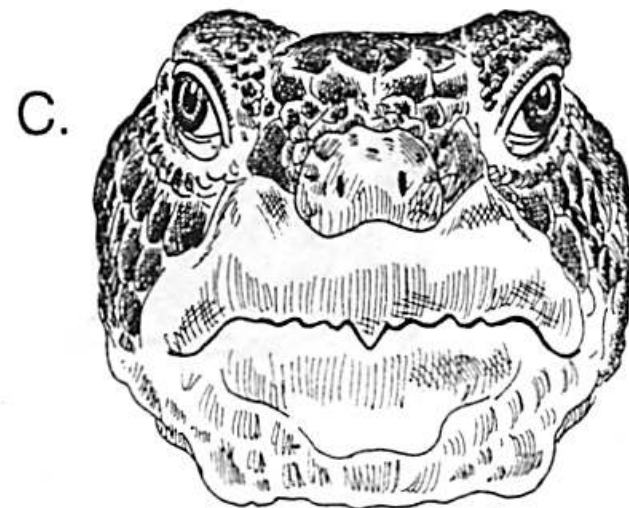
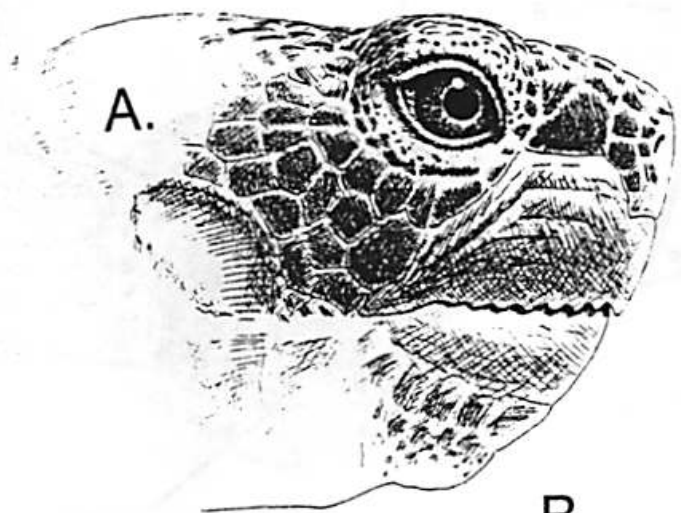


Mucoid Ocular Discharge



Periocular Region

- = Area around the eye from the eyelid margins outward (covered with skin)
- Normal
- Swollen
- Reddened



Normal Periocular Region



Periocular Swelling



Periocular Swelling



Periocular Swelling



Periocular Swelling



Periocular Swelling



Periocular Swelling and Redness



Conjunctiva

- = Mucous membranes from the eyelid margin inward, includes the third eyelid (tissues beneath the eyelid)
- Normal
- Swollen
- Reddened

Conjunctival Redness



Conjunctival Swelling and Redness



The Real World

(things are still not simple)

Periocular And Conjunctival Swelling



Partially Closed Eye, Serous Ocular Discharge, Periocular Swelling



What are the clinical signs?



Skin Lesions

- Lesion = An abnormal change in structure of an organ or part due to injury or disease

Skin Lesion

Location/Distribution

- None
- Generalized
- Head
- Neck
- Forelimb
- Hindlimb
- Axillary region
- Prefemoral region
- Vent/tail

Condition Of Skin Lesion

- N/A = Not Applicable
- Active = Status of a wound or lesion that is very recent or unhealed
- Inactive = Status of a wound or lesion that is no longer changing significantly or is healed

Normal Skin



Mental Glands (normal)



Skin Lesion, Head, Active



Skin Lesion, Neck, Inactive



Skin Lesion, Right Forelimb, Inactive



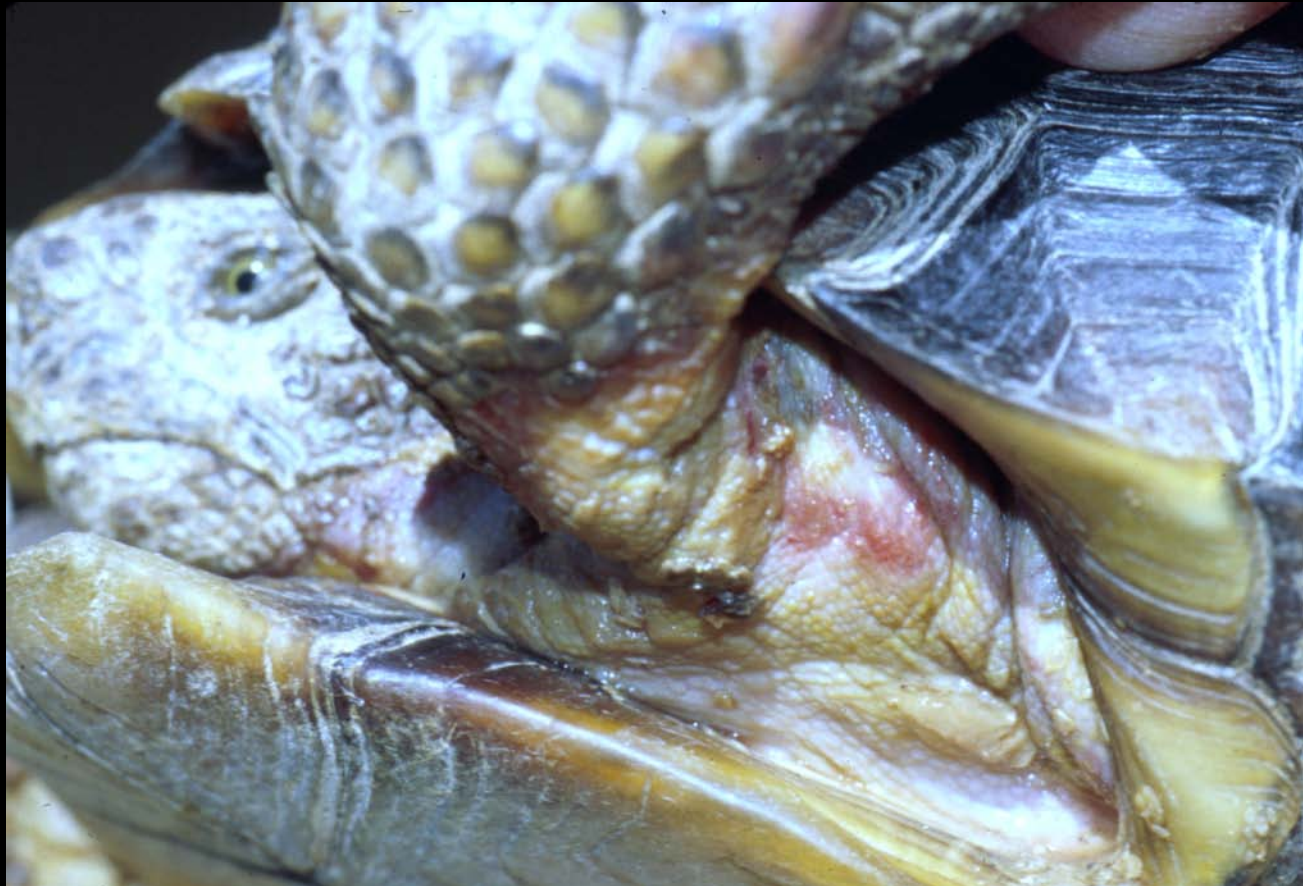
Skin Lesion, Neck, Active



Skin Lesion, Vent/Tail, Active



Skin Lesions, Axillary Region, Active



Coelomic Cavity Palpation



Normal Tortoise



One Urolith



Two Uroliths



One Urolith and Three Eggs



Urolith (bladder stone)



Shell

Shell Characteristics

- N/A
- Compressible
- Sunken
 - may be normal in geriatric animals but not normal in a juvenile

Shell Characteristics

- Extra scutes
- Missing scutes
- Peeling/flaking keratin
- Bone exposed

Shell Abnormalities

- Location
 - Carapace
 - Plastron
 - N/A

Shell Abnormalities

- Distribution
 - None
 - Localized
 - Multifocal
 - Generalized

Shell Abnormalities

- Condition
 - N/A
 - Active
 - Inactive

Dyskeratosis

- Main Entry: dys·ker·a·to·sis
Pronunciation: \,dis-,ker-ə-'tō-səs\
Function: noun Inflected Form(s):
plural dys·ker·a·to·ses \-,sēz\
: faulty development of the epidermis with abnormal keratinization—
dys·ker·a·tot·ic \-'tät-ik\ adjective

Causes of Dyskeratosis

- Causes are many including but not limited to auto-immune, infectious, traumatic, metabolic, nutritional, or toxic etiologies
- Idiopathic

Cutaneous Dyskeratosis

- A disease affecting the shell
- High mortality rates in some populations
- Lesions include white discoloration, flaking, and peeling of the scutes with irregular pitting and chipping of the shell, +/- bone exposure
- Plastron usually affected first
- Cause not definitively determined

Normal Shell



Normal Shell



Compressible Shell

Peeling Scutes



Sunken Scutes



Extra Scute



Carapace Abnormality, Localized, Inactive



Bone Exposed, Carapace, Localized, Inactive



Plastron Abnormality, Localized, Inactive



Carapace Abnormality, Localized, Active



Plastron Abnormality, Localized, Active



Carapace Abnormality, Multifocal, Active



Carapace Abnormality, Generalized, Inactive



Carapace Abnormality, Generalized, Inactive



Carapace Abnormality, Multifocal, Active



Carapace Abnormality, Generalized, Inactive



Circumstances of Skin/Shell Trauma

- N/A
- Unknown
- Suspect canid bite
- Vehicle
- Other

Vehicular Trauma



Canid Predation

Other Trauma, Lesions, Or Identifying Features

- Missing Limbs
- Missing Eyes
- Missing Digits/Nails

Ticks

- Argus (family)
- Ornithodoros (genus) - Soft-bodied tick
- Ornithodoros parkeri and O. ruficatus (Greene 1986)
- Life span 20 yrs for some argasid ticks
- Ticks can survive long periods of starvation

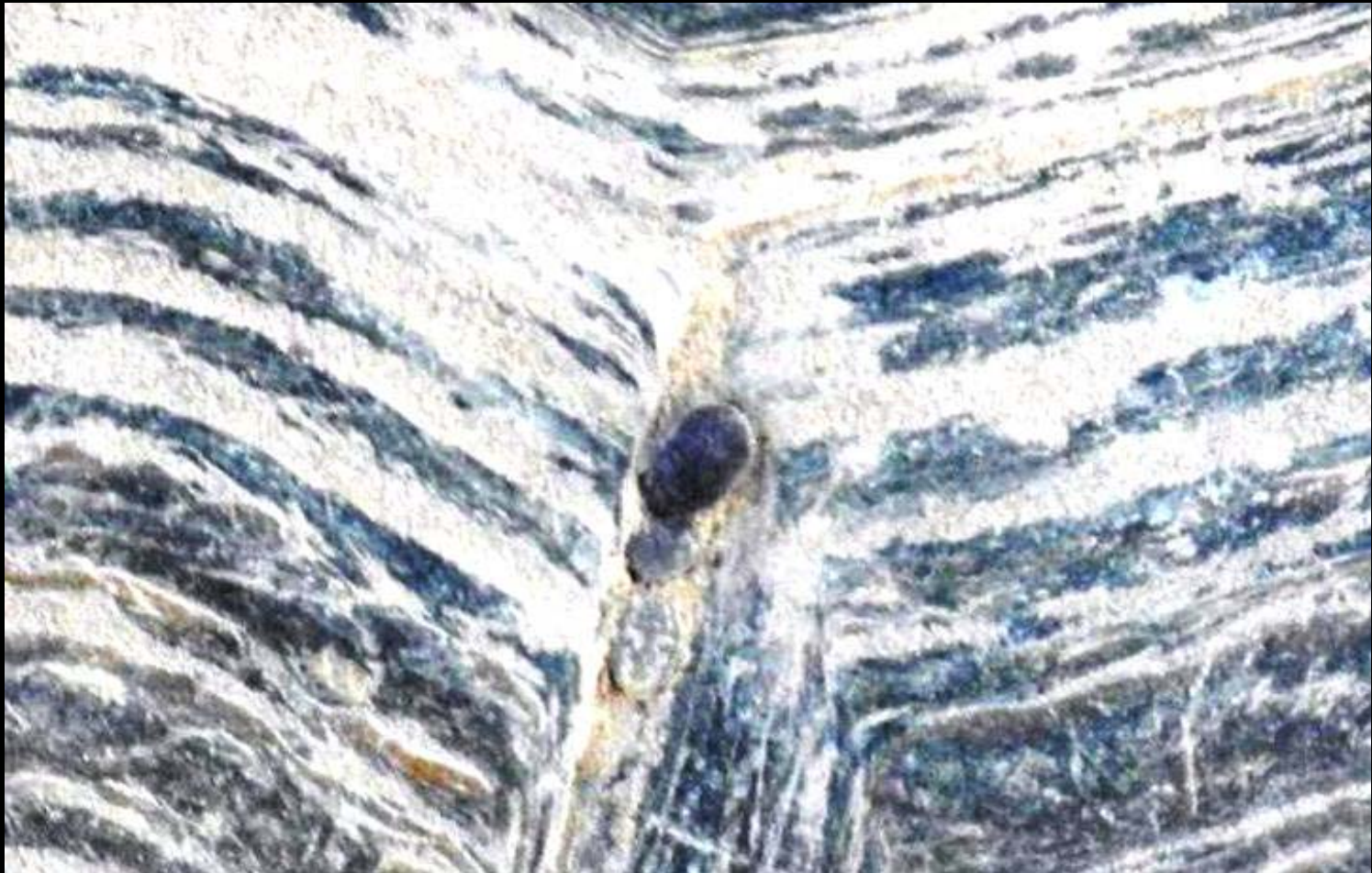
Ticks



Ticks



Ticks



Oral Cavity

- Choana
- Tongue & Oral Mucosa

Choana

- Not Examined
- Normal
- Pale
- Reddened

Tongue & Oral Mucosa

- Not Examined
- Normal
- Pale
- Reddened

Tongue & Oral Mucosa

- Crusts
- Ulcers
- Plaques
- Hypersalivation
- Impaction

Normal Oral Cavity

Choana Reddened



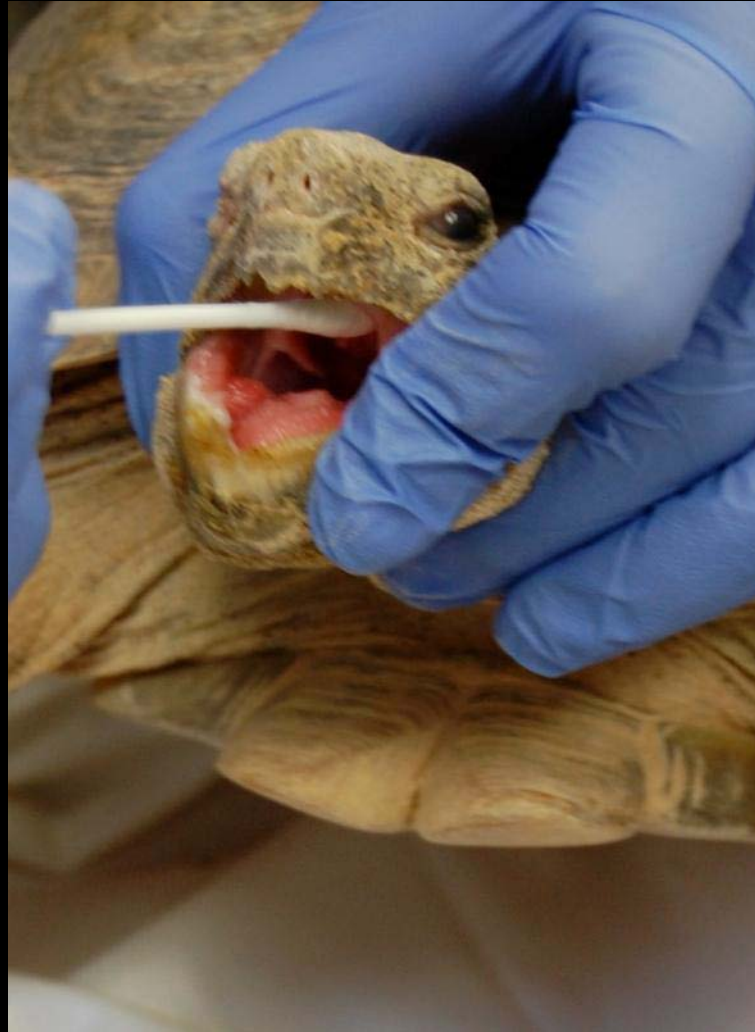
Pale Tongue



Reddened Tongue



Tongue and Oral Mucosa Reddened



Oral Crust

- Crust is an outer layer of solid material formed by drying of a bodily exudate or secretion

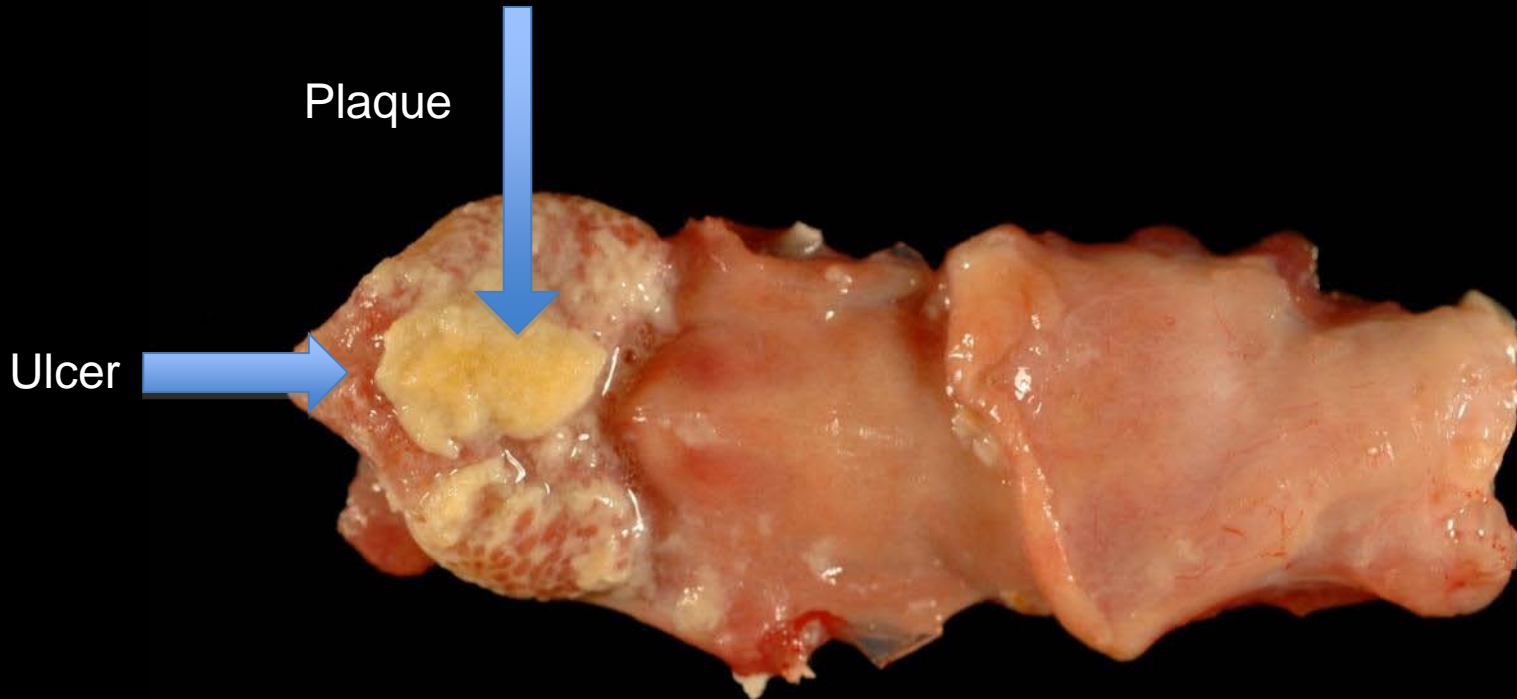
Oral Ulcers

- An ulcer is a localized defect or excavation of the surface of a tissue, usually produced by sloughing of necrotic inflammatory tissue

Oral Plaques

- In the oral cavity, plaques are flat areas that tend to have a white or yellow appearance with a dry surface compared to the pink moist tongue or mucous membrane

Oral Ulcer & Plaque



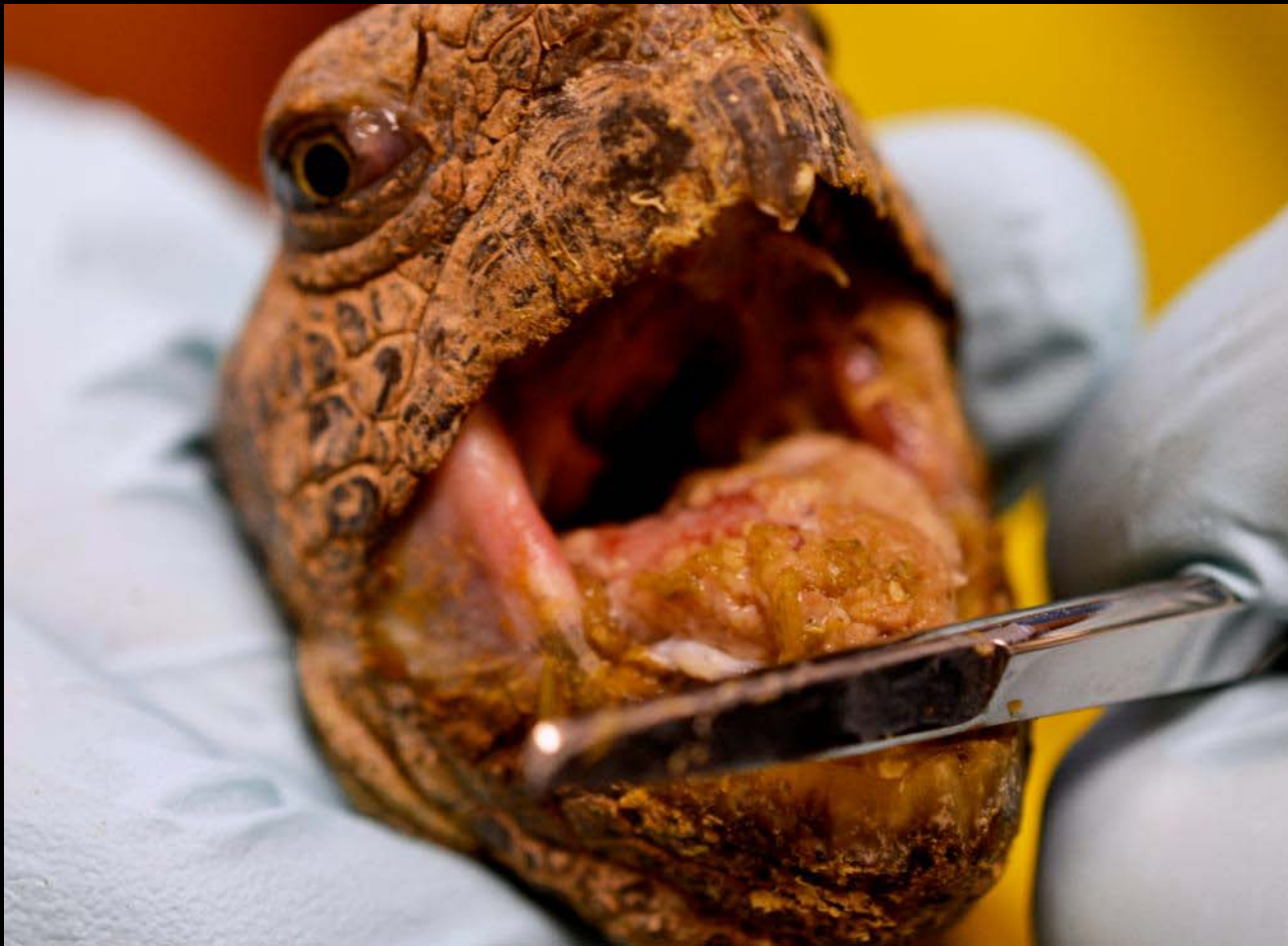
Oral Plaque



Oral Plaque



Oral Plaque and Ulcer



Hypersalivation



Oral Impaction

- Occasionally observed in tortoises
- Food or debris is lodged in the oral cavity, often in the cheek
- Can cause an abscess
- Bromus seeds

Oral Impaction

